

AMENDMENT

In the claims:

1. (Cancelled).
2. (Currently Amended) A radio frequency (RF) receiver for a code division multiple access (CDMA) mobile communication base station system, which has a plurality of receive blocks receiving RF signals via a plurality of antennas, and a plurality of frequency allocation (FA) -based channel cards, the RF receiver comprising:
 - an analog down-converting means for down-converting multi-FA RF signals on the respective reception paths output from the plural receive blocks to intermediate frequency (IF) signals; and
 - a digital down-converting means for converting the IF signals of 3 FA's on the respective reception paths output from the analog down-converting means to digital signals by reception paths, dividing the digital signals into in-phase (I) and quadrature (Q) channels, converting the divided digital signals into I/Q channel baseband signals, and outputting the FA-based I/Q channel baseband signals to the channel cards corresponding to the respective FA's ~~The RF receiver as claimed in claim 1, wherein~~

the analog down converting means comprises:

 - a local oscillator on the individual reception paths for generating a local frequency;
 - a mixer on the individual reception paths for mixing the local frequency generated from the local oscillator with the multi-PA RF signals on the individual reception paths output from the plural receive blocks to generate multi-FA IF signals on the individual reception paths; and

an SAW filter on the individual reception paths for limiting the band of the multi-FA IF signals on the individual reception paths output from the individual mixer to the bandpass of a bandwidth corresponding to the multi-FA bandwidth.

3. (Original) The RE receiver as claimed in claim 2, wherein the multiple PA's are 3 PA's, the IF frequency on the individual reception paths of "0" and "1" is 70 MHz, and the bandwidth of the SAW filter is 3.75 MHz corresponding to the 3 FA's

4. (Currently Amended) A radio frequency (RF) receiver for a code division multiple access (CDMA) mobile communication base station system, which has a plurality of receive blocks receiving RF signals via a plurality of antennas, and a plurality of frequency allocation (FA) based channel cards, the RF receiver comprising:

an analog down-converting means for down-converting multi-FA RF signals on the respective reception paths output from the plural receive blocks to intermediate frequency (IF) signals; and

a digital down-converting means for converting the IF signals of 3 FA's on the respective reception paths output from the analog down-converting means to digital signals by reception paths, dividing the digital signals into in-phase (I) and quadrature (Q) channels, converting the divided digital signals into I/Q channel baseband signals, and outputting the FA-based I/Q channel baseband signals to the channel cards corresponding to the respective FA's ~~The RE receiver as claimed in claim 1, wherein~~ the digital down-converting means comprises:

an analog-to-digital converter on the individual reception paths for converting the IF signals output from the analog down-converters to digital signals;

a FA-based digital unit on the individual reception paths for dividing the digital signals output from each analog-to-digital converter into the FA-based I/Q channels on the individual reception paths to perform QPSK. demodulation and down-converting the I/Q channel digital signals to I/Q channel baseband signals; and

a multiplexer for multiplexing the reception paths and the I/Q channel baseband signals output from the FA-based digital unit and generating the multiplexed digital signals to the channel cards corresponding to the respective FA's.

5. (Original) The RE receiver as claimed in claim 4, wherein the digital unit comprises:

a first reception path OFA digital unit for converting the digital signals output from the analog-to-digital converter corresponding to the first reception path to the I/Q channel baseband signals assigned to OFA;

a first reception path 1FA digital unit for converting the digital signals output from the analog-to-digital converter corresponding to the first reception path to the I/Q channel baseband signals assigned to 1FA;

a first reception path 2FA digital unit for converting the digital signals output from the analog-to-digital converter corresponding to the first reception path to the I/Q channel baseband signals assigned to 2FA;

a second reception path OFA digital unit for converting the digital signals output from the analog-to-digital converter corresponding to the second reception path to the I/Q channel baseband signals assigned to OFA;

a second reception path 1FA digital unit for converting the digital signals output from the analog-to-digital converter corresponding to the second reception path to the I/Q channel baseband signals assigned to 1FA; and

a second reception path 2FA digital unit for converting the digital signals output from the analog-to-digital converter corresponding to the second reception path to the I/Q channel baseband signals assigned to 2FA.

6. (Original) The RF receiver as claimed in claim 4, wherein the individual FA-based digital unit comprises:

a channel divider for dividing the digital signals output from the analog-to-digital converter on the corresponding reception paths into I and Q channels for QPSK demodulation at the digital unit on the respective reception paths;

a local oscillator for generating a local frequency;

a mixer for mixing the local frequency generated from the local oscillator with the divided I/Q channel signals to convert the I/Q channel signals to I/Q channel baseband signals; and

a digital FIR filter for band-pass filtering the respective reception paths and the FA-based I/Q channel baseband signals output from the mixer and generating the band-limited baseband signals to the multiplexer.

7. (Original) The RF receiver as claimed in claim 4, wherein the multiplexer multiplexes:

the I/Q channel baseband signals output from the first reception path 0FA digital unit and the I/Q channel baseband signals output from the second reception path 0FA digital unit;

the I/Q channel baseband signals output from the first reception path 1FA digital unit and the I/Q channel baseband signals output from the second reception path 1FA digital unit; and

the I/Q channel baseband signals output from the first reception path 2FA digital unit and the I/Q channel baseband signals output from the second reception path 2FA digital unit, and

generates the multiplexed signals to the channel cards corresponding to the respective FA's.

8. (Cancelled).